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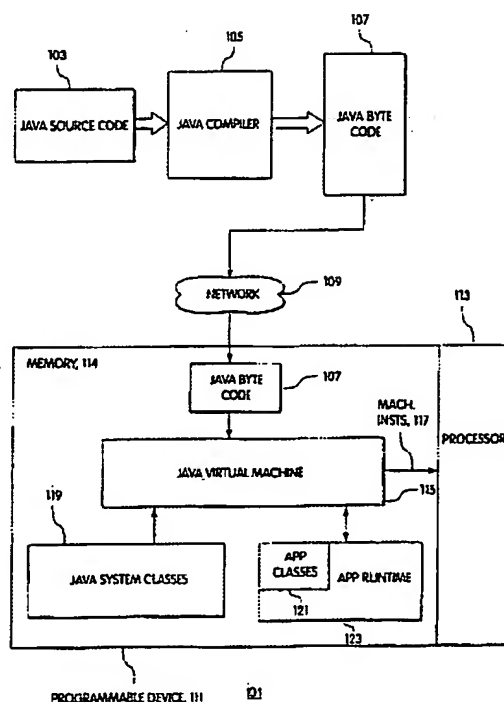
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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: OBFUSCATION OF EXECUTABLE CODE



(57) Abstract: A method for obfuscation of executable computer program code (103) where, in the data field (205) that uses an object name (205) and a field name (207) and replaces them (209) with references that use and object (205) name but do not use a field name (207).

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/13128

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 12/14

US CL : 705/57

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 713/152,164,165,167,190,193,194,200  
705/51,57

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 6,006,328 A [DRAKE] 21 DECEMBER 1999, Entire Document	1-5
A	US 5,530,752 A [RUBIN] 25 JUNE 1996, Entire Document	1-5
A,E	US 6,102,966 A [TYMA] 15 August, 2000, Entire Document	1-5
A	US 5,892,899 A [AUCSMITH et al.] 06 APRIL 1999, Entire Document	1-5
A	WO 99/01815 [INTERTRUST INC.] 14 January 1999, Entire Document	1-5
A	WO 97/04394 [DRAKE] 06 FEBRUARY 1997, Entire Document	1-5

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

24 OCTOBER 2000

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16 NOV 2000

Name and mailing address of the ISA/US  
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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/13128

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/13613 [INTEL CORPORATION] 18 MARCH 1999, Entire Document	1-5
A	RALSTON, ANTHONY Ed. : Legal Protection of Software, 01 January 1976, Mason/Charter Pub., p. 772, (From: Software Patent Institute).	1-5

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/13128

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐  
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**B. FIELDS SEARCHED**

Electronic data bases consulted (Name of data base and where practicable terms used):

Software Patent Institute

w.w.w.

IEEE

Dialog

**BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING**

This ISA found multiple inventions as follows:

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack Unity of Invention because they are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for more than one species to be searched, the appropriate additional search fees must be paid. The species are as follows:

Species 1: A method of obfuscating executable code not involving encryption.

Species 2: A method of obfuscating executable code in a language that includes classes and methods that permit reflection techniques, not involving encryption.

Species 3: A method of obfuscating executable code including a portion that relates to a first construct, the method involving encryption.

The claims are deemed to correspond to the species listed above in the following manner:

The following claims are generic: 1, 2, and 3

The species listed above do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: species 1 and 3 lack any mention of reflection as is found in species 2. Species 1 and 2 lack any mention of encryption as is found in species 3.